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ABSTRACT

This study reports the results of a pilot study of the relationship between teachers and students. The study used a newly developed measure: The Student-Teacher Relationship Scale (STRS). In a sample of 72 kindergarten children, the STRS was found to have three factors: Secure, Change, and Insecure. The total scale and the subscales based on these factors all had alpha reliabilities exceeding .60. There were no gender differences on the STRS total or subscale scores. Support was found for convergent and discriminant validity of the STRS total and subscale scores. The STRS Secure score correlated significantly higher with parental reports of child competence than with a teacher report of classroom competence. (Author/RH)

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Student-teacher relationships

The Student-Teacher Relationship Scale:

Results of a Pilot Study

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Abstract

This article reports the results of a pilot study using a newly developed measure of the relationship between teachers and students: the Student-Teacher Relationship Scale (STRS). In a sample of 72 Kindergarten children the STRS was found to have three factors: Secure, Change and Insecure. The Total scale as well as subscales based on these factors all had alpha reliabilities exceeding .60. There were no gender differences on the STRS total or subscale scores. Support was found for convergent and discriminant validity of the STRS total and subscale scores using correlations with parent and teacher ratings. The STRS Secure score was correlated significantly higher with parental reports of the child competence than was a teacher report of classroom competence.

The Student-Teacher Relationship Scale:

Results of a Pilot Study

The relations between children and teachers have been examined in research in a number of different ways. Teachers' attributions about children, their interactions with children, their expectations for children, and their attitudes about certain types of children have all shown some degree of association with children's classroom adjustment or performance (e.g., Alexander & Entwistle, 1988; Brophy & Good, 1974; Pedersen, Faucher & Eaton, 1978). From students' perspectives, children's feelings about their teachers, the amount of time they spend in contact with teachers and their attentiveness to teacher directed activities have also been examined and found to be related to school success (c.f., Minuchin & Shapiro, 1983). Finally, observational studies have indicated that teachers' behavior toward children are also related to success (c.f. Minuchin & Shapiro, 1983). Despite this large amount of research on relations between teacher and student, little research has been conducted on

teachers' feelings and beliefs about their relationships with students. From a developmental perspective, feelings and beliefs about relationships play a central role in organizing patterns of interactions (Greenspan & Porges, 1984). Relationships between teachers and students can be conceived of as a means by which previous experiences with adults influence children's school adjustment (Erickson & Pianta, in press).

Adult-child relationships, especially parent-child relationships have been found to be important influences on child competence in a number of situations. Examples of this research include the work on infant, toddler and child attachment relationships with caregivers (e.g. Matas, Arend & Sroufe, 1978; Sroufe, 1983). These studies have used observational assessments as measures of the attachment relationship. Ainsworth's Strange Situation as a measure of infant-caregiver attachment is the most frequently used of these assessments (Ainsworth, Blehar, Waters & Wall, 1978). These investigators use these observations to infer descriptions of the "internal working model" of the child or adult with respect to attachment (Bowlby, 1969). Recent methodological advances in the study of parent-child attachments show strong validity for the

use of structured interviews and questionnaires to provide information on relationships and internal working models (Bretherton, 1989; Main, in press).

The study of teacher-child relationships, an integrative domain encompassing the areas of teacher-child relations and adult-child relationships, has not received much attention from researchers (Minuchin & Shapiro, 1983). Support for continuity in relationships across caregivers and across time suggests that the teacher-child relationship is likely to be a target for patterns of child behavior, beliefs, and feelings developed within the context of the parent-child relationship especially in the primary grades (Erickson & Pianta, in press). Early experiences with caregivers will determine the extent to which positive self and other expectancies, feelings of self worth, trust and motivation are manifest in relation to a teacher. Teachers' responses to these factors may be influential in determining classroom adjustment.

In fact, Garmezy (1984) suggests that one major factor underlying the competence in high risk children is their having a relationship with an adult in which they experience security and a sense of self esteem. Boyer (1983) has suggested that for high risk high school students, a relationship with a supportive

teacher is one factor associated with prevention of dropouts. Many dropout prevention programs operate on this assumption and include some type of counseling or supportive relationship component (Hess , Wells, Prindle, Lippman & Kaplan, 1987). Finally, for younger children, the extent to which teachers provide children with a context in which to experience security and self esteem has been linked to their social, affective and academic competence (Sroufe, 1983, Pedersen, et al, 1978).

To further the study of teacher-child relationships and their role in amelioration and exacerbation of risk, there is a need for development of instruments appropriate for measurement of this relationship. In this study, we report the results of a pilot study using a questionnaire specifically designed to assess the teacher-child relationship from the perspective of the teacher. This instrument is part of a larger effort to develop a number of measures tapping the teacher-child relationship from various perspectives (e.g. teacher or student) using different methods (e.g. questionnaire, observation). We used the attachment literature as a basis for developing items that would reflect on teachers' internal working models of the relationships they share with students. Based on the

attachment literature, we hypothesized that security and insecurity would be major dimensions of the teacher-child relationship, as in child-parent attachments. Furthermore, we hypothesized that these dimensions would correlate in expected directions with teacher ratings of the child's behavior, and with parent ratings of the child's behavior.

Method

Subjects

Subjects were 72 children chosen from a larger sample of 401 Kindergarten children attending six elementary schools in a small city. Twenty four teachers completed questionnaires for three children in their classroom. The children chosen were the first three names on the teachers' alphabetized classroom roster. There were 34 boys and 38 girls in the sample with a mean age of five years three months at school entry. There were no significant differences between the subsample and the larger sample on the proportion of boys or girls, or mean age at time of school entry. Nor were there differences between the subsample and the larger sample on intelligence, level of mother's education, child's motor abilities or parent-reported behavior problems.

For the 72 children in the subsample, the modal

level of mother's education was high school graduate and the mean child IQ using a two subtest short form of the Stanford Binet Fourth Edition was 101.2.

Measures

Each child's teacher completed the Student-Teacher Relationship Scale ([STRS], Pianta, 1988a) and the Teacher-Child Rating Scale ([TCRS], Hightower, Work, Cowen, Lotycki, Spinnell, Guare, & Rohrbeck, 1986). Each child's parents completed the Preschool Behavior Rating Scale ([PBRs], Pianta, 1988b).

Student-Teacher Relationship Scale. This is a 16 item instrument measuring the teacher's perception of her relationship with a particular student. Questions assessed a teacher's feelings about a child, her beliefs about the child's feelings toward her, and her observations of the child's behavior in relation to her. Items were selected based on a review of behaviors used in the classification of parent-child attachment and the Q sort for attachment (Waters & Deane, 1985). Items were selected in order to assess both security and insecurity in the teacher-child relationship. Two items were written specifically to assess change in the relationship (either positive or negative) that occurred during the course of the year. All items were written in a five point Likert-type scale with the teacher

endorsing the extent to which the item was true of the relationship between herself and the child. For each of the change items the teacher was requested to respond to an open ended question assessing her beliefs about what factors contributed to the change.

Teacher-Child Rating Scale. In November and April of Kindergarten, each teacher completed the Teacher-Child Rating Scale ([TCRS], Hightower, et al, 1986) on all the children in her classroom. The TCRS is a 38 item objective measure of children's social, behavioral, and academic competencies and difficulties. There are 18 items in the Problem Behaviors scale and 20 items on the Competency scale. Reliability on these scales exceeds .90 (Hightower, et al., 1986).

Preschool Behavior Rating Scale. At school entry, each child's parent(s) completed the PBRS, a 46 item behavior rating scale assessing competency, acting out and internalizing behaviors. Items are in a four point Likert-type format. Three subscale scores are derived: Competence, Acting Out and Anxiety along with a Total score. Internal consistency reliabilities are .83 for the Total scale, .78 for Competence, .75 for Acting Out, and .72 for Anxiety.

Data collection procedures

The PBRS was administered on the child's first day

of school during a Kindergarten screening process. Six children at a time rotated through a series of six stations at which they were administered a specific instrument. At one of the stations parents were asked to complete the PBRs. Each child's kindergarten teacher completed a TCRS on that child in November and again in April. The STRS was completed by teachers during the first week of May.

Data analysis

Four procedures were performed on the data collected. First, a factor analysis of the STRS was conducted to examine whether the items grouped according to the security dimensions and identify if subscales could be developed. Second, internal consistency procedures were performed on the entire scale and subscales identified through the factor analysis. Next, boys and girls were compared on the total and subscale scores of the STRS. Correlations of the STRS with the remaining teacher and child data were performed in order to examine the discriminant and convergent validity of the entire scale and subscales.

Results

The results of the factor analysis are presented in Table 1 and indicate support for dimensions of security and insecurity in the teacher-child

relationship.

Insert Table 1 about here

The principal components extraction produced three factors with eigenvalues greater than 1 which were subsequently rotated using a varimax procedure. The first factor accounted for 38.4% of the common variance, the second accounted for 13.4% and the third 8.2%. The item-factor loadings after rotation presented in Table 1 indicate that the first factor was reflective primarily of a secure, warm relationship. This factor was named Secure and teachers scoring high on this factor reported a relationship with a student that was characterized by trust, feeling in tune with the student, a perception the student felt safe with the teacher, the student would seek help and the teacher could console the student, there was a lack of avoidance or punishment and the child expressed affect and a need for consolation. The loadings on the second factor were highest for the two items indicative of change in the relationship and so this factor was named Change. Both the positive and negative change items were the items with highest loadings on this factor. The third factor was loaded on by items indicating insecurity in

the student-teacher relationship and was named Insecure. Teachers scoring high on this factor perceived the student they were rating as challenging to their efforts to teach, constantly seeking help or reassurance from the teacher, reacting negatively to separation from the teacher and responding negatively to consolation.

The second data analysis procedure examined the internal consistency reliability of the total scale and three subscales formed on the basis of the factor analysis. The alpha obtained for the entire 16 item scale was quite high at .85. The alphas for the Secure, Change and Insecure subscales were .59, .66 and .64 respectively.

Boys' and girls' scores on the set of STRS total and subscale scores were compared using MANOVA. The results for the MANOVA comparison were not significant (Wilks=.924, $F=1.78$, [3,65], $p=.16$).

Next, a series of correlations was run to examine the convergent and discriminant validity of the total and subscale scores. The Total, Secure, Change and Insecure scores were correlated with the Preschool Behavior Rating Scale (parent report) obtained nine months before at school entry, the TCRS (teacher report) obtained in November and the TCRS obtained in

April. The results of these analyses are presented in Tables 2 and 3.

Insert Tables 2 and 3 about here

Generally all scores from the relationship scale correlated in predicted directions with teacher and parent ratings. With the parent ratings, there were significant correlations between the Total relationship scale score and parents' ratings of the children's Competence (.39) and Acting Out behavior (-.31). The Security scale correlated significantly with the Competence scale of the parent report measure (.45) and the Insecurity scale correlated significantly with the Acting Out scale (.25).

Interestingly, the teacher report of competence from the spring TCRS correlated only .23 with the parent report of Competence. The difference between the correlation of the STRS Secure scale with the parent Competence rating (.45) and the correlation of the teacher and parent Competence ratings (.23) is significant using the r to Z transformation ($Z=2.09$, $p<.05$).

For the November administration of the TCRS many significant correlations were obtained with the

relationship scale total and subscale scores. High scores on the Total and Secure scales of the STRS, were significantly associated with a lack of behavior, conduct, internalizing, and attention problems; and with high scores on competence, frustration tolerance, work habits, and social competence. The Change subscale was correlated in a similar manner, as noted in Table 3. Finally, the Insecure subscale was significantly correlated in with the November TCRS subscales albeit in the opposite direction from the other STRS scores.

The results for the correlations between the April administration of the TCRS and the relationship scale total and subscale scores are very similar to those reported for the Fall administration of the TCRS. As presented in Table 3, children reported by their teachers to have more secure relationships were those who were rated as more competent in the classroom, Conversely, the less secure children were rated as having more behavior problems and were less competent.

Discussion

This study describes a new procedure designed to measure aspects of teacher-child relations heretofore neglected in most educational and developmental research. Using the teacher as an informant, the teacher-child relationship was reliably measured and

appeared multidimensional in nature. There were no significant gender differences on the dimensions of the teacher-child relationship measured by the STRS. Dimensions of the teacher-child relationship such as security and insecurity were significantly related to ratings of the child classroom functioning by the teacher and ratings made by parents of the child's behavior in the home.

One set of findings emerging from this study involves the psychometric characteristics of the STRS. In this study we asked teachers to report on their beliefs and feelings regarding students, their perceptions of students' affect and beliefs regarding themselves and their observations of students' relational behavior. Initially we were concerned that there would be little variance in teachers' responses, perhaps due to social desirability, or perhaps due to defensiveness. This was not the case. Variability in items was good, and more importantly, teachers' responses identified aspects of their relationships with students which were not positive, and marked by insecurity or change in a negative direction. That teachers were willing to reflect on these relational processes and subsequently report them to researchers, is a positive finding in itself. The finding that the

relationship was characterized by both security and insecurity is a validation of work on other adult-child relationships, notably the attachment relationship between parents and children (Ainsworth, et al, 1978; Main, in press; Sroufe, 1983). Our current work in furthering the development of the STRS is to expand the item pool and develop subscales addressing different forms of security and insecurity, distinguishing between anxiety and anger-based insecurity (c.f. Main, in press).

The lack of significant gender differences in a teacher report measure runs counter to prevailing data showing strong gender differences in teachers' ratings of children's classroom behavior (e.g. Achenbach & McConaghy, 1986). Since the STRS was specifically designed not to measure classroom behavior typically sampled by teacher report behavior checklist, this finding was confirmation of the face validity of the items. Also, most investigators engaged in the study of relationships argue that measures of the relationship should be somewhat independent of the characteristics of the individuals or interactions of which the relationship is composed (Hinde & Stevenson-Hinde, 1987). This is because the properties of the relationship are at a more abstract level than

characteristics of individuals or interactions (Hinde & Stevenson-Hinde, 1987; Waters & Sroufe, 1983). The lack of significant gender differences for these kindergarten children may also indicate that early in their school careers, boys and girls are reacted to more similarly than they are later, after differential patterns of behavior have developed. This hypothesis requires further study.

The correlations provide support for the convergent and discriminant validity of the STRS and its subscales. Clearly, the subscales of the STRS correlated with the teacher and parents measures in expected directions, with many correlations being quite high. Interestingly, the correlations obtained between the parent report rating scale and the STRS total and subscales were generally higher than those reported between parent and teacher report (Achenbach & McConaghy, 1986). This suggests that the STRS may be assessing continuity in the process by which behavior with the parent is transferred to behavior with the teacher. This conclusion is supported by the significantly higher correlation obtained between the STRS Secure scale and parent report of competence than the TCRS Competence scale and parent report of competence. In this sample, teachers' positive feelings

about children and their beliefs about children's secure feelings toward themselves were more highly related to parents' perceptions of their child than are teacher's ratings of children's classroom behaviors.

The findings of moderate to high correlations between the teacher's report of their relationship with a student and their report of the student's classroom behavior were not surprising. Most teacher report measures correlate in the .50 to .70 range with each other (Achenbach & McConaghy, 1986) and in our sample, the correlations between the November and April TCRS are in this range. The pattern of positive and negative correlations between the STRS and TCRS suggests that dimensions of security and insecurity, and aspects of the affective nature of teacher-child relationships may be dimensions around which classroom behavior and interaction are organized (Waters & Sroufe, 1983).

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Table 1
 Factor analysis of Student-Teacher Relationship Scale
 (n=72)

<u>Factor Loadings</u>			
<u>Item</u>	<u>Secure</u>	<u>Change</u>	<u>Insecure</u>
1.Trust	.76	.45	-.06
2.In tune	.68	.03	-.17
3.Wary	-.64	-.22	.03
4.Challenges me	-.35	-.19	.53
5.Seeks help	.54	-.26	.45
6.Able to console	.70	.25	-.02
7.Avoids contact	-.74	.10	.17
8.Needs assurance	.06	-.10	.87
9.Punishment	-.68	-.18	.09
10.Responds to me	.30	.40	.22
11. Secure	.75	.22	-.10
12.Affectionate	.76	.38	.01
13.Seeks comfort	.71	.41	.22
14.Separation anx.	-.05	.16	.75
15.Pos. change	.15	.84	.04
16.Neg. change	-.27	-.72	.20

Table 2
Correlations of Relationship Scale Total and
Subscale Scores with Parent Behavior Rating Scale

	<u>PBRS</u>		
	<u>Competence</u>	<u>Acting Out</u>	<u>Anxiety</u>
Total	.40**	-.31**	- .08
Security	.45**	-.18	- .04
Change	.07	.06	.01
Anxious	.14	.25*	.14

*, $p < .05$

**, $p < .01$

Table 3
Correlations of Relationship Scale Total and Subscale Scores
with November and April TORS

November TORS									
<u>Rel. Scale</u>	<u>Beh. Prob.</u>	<u>Conduct</u>	<u>Intern.</u>	<u>Atten.</u>	<u>Competence</u>	<u>Frus. Tol.</u>	<u>Work Hab.</u>	<u>Soc. Comp.</u>	
Total	-.61**	-.60**	-.43**	-.46**	.64**	.60**	.56**	.61**	
Secure	-.39**	-.34**	-.31**	-.34**	.44**	.36**	.40**	.45**	
Change	.42**	-.52**	.22*	.24**	-.34**	-.33**	-.26*	-.36**	
Anxious	.36**	.39**	.26**	.19	-.42**	-.50**	-.32**	-.31**	
April TORS									
<u>Rel. Scale</u>	<u>Beh. Prob.</u>	<u>Conduct</u>	<u>Intern</u>	<u>Atten.</u>	<u>Competence</u>	<u>Frus. Tol.</u>	<u>Work Hab.</u>	<u>Soc. Comp.</u>	<u>Assert</u>
Total	-.61**	-.62**	-.34**	-.53**	.70**	.67**	.51**	.68**	.53**
Secure	-.38**	-.35**	-.31**	-.29**	.49**	.41**	.40**	.53**	.35**
Change	.33**	.42**	.02	.31**	.30**	-.36**	-.08	-.38**	-.22*
Anxious	.40**	.45**	.20*	.31**	.43**	-.51**	-.28**	-.37**	-.32**

* $p < .05$

* $p < .01$